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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/753,357 | 12/29/2000 | Claus P. Jensen | 10559/381001/P10187 | 9721 |

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| EXAMINER | |
|---|---|
| MACE, BRAD THOMAS | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2663 | 4 |

DATE MAILED: 05/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/753,357 | JENSEN, CLAUS P. | |
| | Examiner | Art Unit | |
| | Brad T. Mace | 2663 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-17 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-17 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Drawings*

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The disclosure is objected to because of the following informalities: line 20, pg. 5 does not clearly specify that the "hosts members" will have "received" the query message. The word "massages" should be "messages" on line 11 of pg. 8. Appropriate correction is required.

### *Claim Objections*

3. Claims 1, 14, 15, and 16 are objected to because of the following informalities: line 8 of claim 1 and line 10 of claim 16 should be made clearer that the routers are sending the second set of query messages. Lines 9-10 of claim 1 and lines 11-12 of claim 16 should be made clearer that the host members will be sending the membership report messages. Line 5 of claim 14 is missing the word "and" between "send - receive". . Line 1 of claim 15 has "fo" instead of "of". Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

4. Claims 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "said sending" in line 1 of claim 7. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,370,142 ("Pitcher et al.").

Regarding claims 1, 2, 3, and 4:

Pitcher et al. teaches the method of periodically sending a set of query messages (thus setting a time interval between a set of query messages) to each of a plurality of ports (which includes routers) (col. 11, lines 12-17). The method reveals the presence of routers when routers send membership queries (second set of query messages) (col. 10, lines 26-28). Since the method detects querier multicast routers, this infers that the periodic sending of query messages must be sent at a time interval greater than a querier timeout period used by the routers so that the querier timeout period can

transition each of the routers into a querier. As long as the time interval between a set of query messages is greater than a querier timeout period, the router can be placed in a querier, hence 255 seconds can be used as a querier timeout period. This would mean that the time interval needs to be longer than 255 seconds, where 300 seconds is in this range. The method also has the hosts sending membership report messages to the routers (col. 10, lines 34-35, and col. 10, lines 61-63).

Regarding claim 5:

Pitcher et al. teaches that the routers send membership queries (second set of query messages) to determine which host groups have members participating in multicast groups (thus on directly attached networks) (col. 6, lines 17-28).

Regarding claim 6:

Pitcher et al. teaches that the membership report messages include a report from each host group (col. 3, lines 65-67 and col. 6, lines 35-39).

Regarding claim 7:

Pitcher et al. teaches that sending membership queries includes selecting a host from each host group to send the membership report message (col. 3, lines 63-67).

Regarding claim 8:

Pitcher et al. teaches that the selected host starts a randomly chosen report delay timer (col. 6, lines 5-7).

Regarding claim 9:

Pitcher et al. teaches that when an end-station hears another IGMP membership report (from the same host group), it will suppress its membership report in order to

avoid duplicate membership reports (col. 6, lines 1-7). Therefore the report delay timer is reset to a new random value for the next IGMP membership query (in the same manner as when the end-stations first set up a random time interval) (col. 6, lines 5-7).

Regarding claims 10 and 14:

Pitcher et al. teaches an IGMP switch system (col.5, lines 28-37). The system has a plurality of routers to route Internet Protocol (IP) data and that generate query messages (see Figure 4; col. 2, lines 22-38; and col. 6, lines 17-23). The system also has a plurality of hosts to send and receive IP data and that generate report messages (col. 5, lines 28-37; and col. 1, lines 43-62). In addition, the system has a plurality of IGMP pruning switches (col. 3, lines 33-47 and see Figure 4) having a plurality of switch ports where these ports provide interfacing of the end-stations (hosts) and routers (col. 3, lines 53-56, col. 3, line 67 to col. 4, lines 1-5, and see Figure 4). This IGMP pruning switch provides the transferring of messages (query and report), which in turn infers the determination of the presence of routers and hosts (col. 5, lines 31-34; col. 6, lines 24-26; and col. 6, lines 39-42).

Regarding claim 11:

Pitcher et al. teaches that the pruning switch allows the plurality of hosts to issue report messages (col. 6, lines 35-42), which therefore means these hosts are in a host state.

Regarding claim 12:

Pitcher et al. teaches that the pruning switch allows the plurality of routers to issue query messages (col. 6, lines 17-23), which therefore means these routers are in a router state.

Regarding claim 13:

Pitcher et al. teaches that the pruning switch determines (in a discovery state) whether each switch port is a host or router port (col. 11, lines 12-17). Pitcher et al. also teaches the periodic sending of sets of query messages (thus setting a time interval between a set of query messages) to each of a plurality of ports (which includes routers) (col. 11, lines 12-17). The method reveals the presence of routers when routers send membership queries (second set of query messages) (col. 10, lines 26-28). Since the method detects querier multicast routers, this infers that the periodic sending of query messages must be sent at a time interval greater than a querier timeout period used by the routers so that the querier timeout period can transition each of the routers into a querier. In addition, the system can determine if the port is an end-station (host) port (col. 10, lines 6-9). Therefore the state of each port is revealed.

Regarding claim 15:

Pitcher et al. teaches that IGMP pruning switches can be connected to each other (see Figure 4). Pitcher et al. also taught that the IGMP pruning switch provides the transferring of messages (query and report) (col. 5, lines 31-34; col. 6, lines 24-26; and col. 6, lines 39-42). Since the transfer of a router query message may need to find a host on an indirectly connected pruning switch, the connecting IGMP pruning switches

therefore have connecting ports in a router state (see Figure 4, references 205, 452, and 453).

Regarding claim 16 and 17:

Pitcher et al. teaches an apparatus comprising a machine-readable storage medium having executable instructions (see Figure 9) that enable the machine to perform the method of periodically sending a set of query messages (thus setting a time interval between a set of query messages) to each of a plurality of ports (which includes routers) (col. 11, lines 12-17). The method reveals the presence of routers when routers send membership queries (second set of query messages) (col. 10, lines 26-28). Since the method detects querier multicast routers, this infers that the periodic sending of query messages must be sent at a time interval greater than a querier timeout period used by the routers so that the querier timeout period can transition each of the routers into a querier. As long as the time interval between a set of query messages is greater than a querier timeout period, the router can be placed in a querier, hence 255 seconds can be used as a querier timeout period.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brad T. Mace whose telephone number is (703)-306-5454. The examiner can normally be reached on M-F, with the exception of every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703)-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btm

Brad T. Mace
Examiner
Art Unit 2663

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SUPERVISORY PATENT EXAMINER
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